We Claim:

1. A system for distributing a cryptographic key for encrypting digital data, the system comprising:

a key source for storing the cryptographic key, encrypting the cryptographic key, and for transmitting the encrypted cryptographic key over a control bus; and

a transmitter for receiving the digital data, receiving the encrypted cryptographic key over the control bus, decrypting the encrypted cryptographic key to recover the cryptographic key, encrypting the digital data using the cryptographic key to generate encrypted data, and for transmitting the encrypted data.

2. The system for distributing a cryptographic key according to claim 1, wherein the key source comprises a first memory for storing the cryptographic key, a second memory for storing an encryption key, and a key encryptor for encrypting the cryptographic key using the encryption key.

3. The system for distributing a cryptographic key according to claim 1, wherein the transmitter comprises a memory for storing a decryption key, a key decryptor for decrypting the encrypted cryptographic key using the decryption key, and a data encryptor for encrypting the digital data using the cryptographic key.

4. The system for distributing a cryptographic key according to claim 1, wherein the key source and the transmitter are included in at least two physically separate devices.

5. The system for distributing a cryptographic key according to claim 1, wherein the control bus is an I^2C control bus.

6. The system for distributing a cryptographic key according to claim 1, wherein the cryptographic key is encrypted and decrypted using a symmetric system where the encryption key is identical to the decryption key.

7. The system for distributing a cryptographic key according to claim 6, wherein the symmetric system is a Data Encryption Standard (DES) system.

8. The system for distributing a cryptographic key according to claim 1, wherein the cryptographic key is encrypted and decrypted using a public key system where the encryption key is public and the decryption key is private.

9. The system for distributing a cryptographic key according to claim 8, wherein the public key system is a RSA system.

10. The system for distributing a cryptographic key according to claim 1, wherein the digital data comprises multimedia data, video, audio, web content, graphics or text.

11. The system for distributing a cryptographic key according to claim 1, wherein the key source is a computer system comprising a first memory for storing the cryptographic key, a second memory for storing an encryption key, a key encryptor for encrypting the

cryptographic key using the encryption key, and a microprocessor working together with the key encryptor to encrypt the cryptographic key.

12. The system for distributing a cryptographic key according to claim 11, wherein the key encryptor is implemented as software running on the microprocessor.

13. The system for distributing a cryptographic key according to claim 11, wherein the key encryptor is implemented using a firmware or a hardware.

14. The system for distributing a cryptographic key according to claim 1, wherein the key source and the transmitter are included in a computer.

15. The system for distributing a cryptographic key according to claim 1, wherein the key source and the transmitter are included in a set-top box.

16. A set-top box for distributing a cryptographic key for encrypting digital data, the set-top box comprising:

a cable tuner for receiving a cable signal from cable headend and for selecting a channel of the cable signal;

a cable signal decoder for receiving the channel and for outputting content of the channel as the digital data;

a smart card for storing the cryptographic key in an encrypted form, and for transmitting the encrypted cryptographic key over a control bus; and

a transmitter for receiving the digital data, receiving the encrypted cryptographic key over the control bus, decrypting the encrypted cryptographic key to generate the cryptographic key, encrypting the digital data using the cryptographic key to generate encrypted data, and for transmitting the encrypted data.

17. The set-top box for distributing a cryptographic key according to claim 16, wherein the transmitter comprises a memory for storing a decryption key, a key decryptor for decrypting the encrypted cryptographic key using the decryption key, and a data encryptor for encrypting the digital data using the cryptographic key.

18. The set-top box for distributing a cryptographic key according to claim 16, wherein the smart card is removably coupled within the set-top box and with the control bus, whereby the smart card can be replaced with another smart card.

19. A set-top box for distributing a cryptographic key for encrypting digital data, the set-top box comprising:

a cable tuner for receiving a cable signal from cable headend, and for selecting one or more channels of the cable signal;

a cable signal decoder for receiving the channels, for exatracting the cryptographic key in an encrypted form from the channels, for extracting the digital data from the channels, and for transmitting the encrypted cryptographic key over a control bus; and

a transmitter for receiving the digital data, receiving the encrypted cryptographic key over the control bus, decrypting the encrypted cryptographic key to recover the cryptographic key, encrypting the digital data using the cryptographic key to generate encrypted data, and for transmitting the encrypted data.

20. The set-top box for distributing a cryptographic key according to claim 19, wherein the digital data and the encrypted cryptographic key are included in same channel of the cable signal.

21. The set-top box for distributing a cryptographic key according to claim 19, wherein the digital data and the encrypted cryptographic key are included in different channels of the cable signal.

22. The set-top box for distributing a cryptographic key according to claim 19, wherein the digital data comprises HDTV movie signals.

23. A system for distributing a cryptographic key for decrypting encrypted data, the system comprising:

a key source for storing the cryptographic key, encrypting the cryptographic key, and for transmitting the encrypted cryptographic key over a control bus; and

a receiver for receiving the encrypted data, receiving the encrypted cryptographic key over the control bus, decrypting the encrypted cryptographic key to recover the cryptographic key, decrypting the encrypted data using the cryptographic key to generate digital data, and for transmitting the digital data.

24. The system for distributing a cryptographic key according to claim 23, wherein the key source comprises a first memory for storing the cryptographic key, a second memory for storing an encryption key, and a key encryptor for encrypting the cryptographic key using the encryption key.

25. The system for distributing a cryptographic key according to claim 23, wherein the receiver comprises a memory for storing a decryption key, a key decryptor for decrypting the encrypted cryptographic key using the decryption key, and a data decryptor for decrypting the encrypted data using the cryptographic key.

26. The system for distributing a cryptographic key according to claim 23, wherein receiver is included in a digital display, and the key source is included in a set-top box, a DVD player or a computer.

27. A system for distributing cryptographic keys for encrypting digital data and for decrypting encrypted data, the set-top box comprising:

a cable tuner for receiving a cable signal from cable headend, and for selecting one or more channels of the cable signal;

a cable signal decoder for receiving the channels, for exatracting first and second cryptographic keys in an encrypted form from the channels, for extracting the digital data from the channels, and for transmitting the encrypted first cryptographic key and the encrypted second cryptographic key over a control bus;

a transmitter for receiving the digital data, receiving the encrypted first cryptographic key over the control bus, decrypting the encrypted first cryptographic key to generate the first cryptographic key, encrypting the digital data using the first cryptographic key to generate the encrypted data, and for transmitting the encrypted data; and

a receiver for receiving the encrypted data, receiving the encrypted second cryptographic key over the control bus, decrypting the encrypted second cryptographic key to generate the second cryptographic key, decrypting the encrypted data using the second cryptographic key to recover the digital data, and for transmitting the digital data.

28. The system for distributing cryptographic keys according to claim 27, wherein the receiver is included in a digital display, and the cable tuner, the cable signal decoder and the transmitter are a included in a set-top box.

29. The system for distributing cryptographic keys according to claim 27, the system further comprising a repeater for receiving the encrypted data from the transmitter, receiving the encrypted first and second cryptographic keys over the control bus, decrypting the encrypted first and second cryptographic keys to generate first and second cryptographic keys, respectively, decrypting the encrypted data using the second cryptographic key to generate the digital data, encrypting the digital data using the first cryptographic key to

generate the encrypted data, and for transmitting the encrypted data to the receiver.

30. A method of distributing a cryptographic key for encrypting digital data, the method comprising the steps of:

storing the cryptographic key in a key source;

encrypting the cryptographic key in the key source to generate an encrypted cryptographic key;

transmitting the encrypted cryptographic key from the key source over a control bus;

loading the encrypted cryptographic key into a transmitter from the control bus;

decrypting the encrypted cryptographic key in the transmitter to recover the cryptographic key;

introducing the digital data into the transmitter;

encrypting the digital data using the recovered cryptographic key to generate encrypted data; and

transmitting the encrypted data from the transmitter.

31. The method of distributing a cryptographic key according to claim 30, wherein the key source and the transmitter are included in at least two physically separate devices.

32. The method of distributing a cryptographic key according to claim 30, wherein both the key source and the transmitter are included in a computer, set-top box, or a DVD player.

33. A method of distributing a cryptographic key for encrypting digital data, the method comprising the steps of:

storing the cryptographic key in an encrypted form in a smart card;

installing the smart card inside a set-top box;

receiving a cable signal from cable headend into the set-top box;

selecting a channel of the cable signal, the channel including the digital data;

decrypting the encrypted cryptographic key to generate the cryptographic key;

encrypting the digital data using the cryptographic key to generate encrypted data; and

transmitting the encrypted data from the set-top box.

34. A method of distributing a cryptographic key for encrypting digital data, the method comprising the steps of:

receiving a cable signal from cable headend into a set-top box;

selecting one or more channels of the cable signal;

extracting the digital data from the channels;

extracting an encrypted cryptographic key from the channels;

decrypting the encrypted cryptographic key to generate the cryptographic key;

encrypting the digital data using the cryptographic key to generate encrypted data; and

transmitting the encrypted data from the set-top box.

35. The method of distributing a cryptographic key according to claim 34, wherein the digital data and the encrypted cryptographic key are included in same channel.

36. The method of distributing a cryptographic key according to claim 34, wherein the digital data and the encrypted cryptographic key are included in different channels.

37. A method of distributing a cryptographic key for decrypting encrypted data, the method comprising the steps of:

storing the cryptographic key in a key source;

encrypting the cryptographic key in the key source to generate an encrypted cryptographic key;

transmitting the encrypted cryptographic key from the key source over a control bus;

loading the encrypted cryptographic key into a receiver from the control bus;

decrypting the encrypted cryptographic key in the receiver to recover the cryptographic key;

introducing the encrypted data into the receiver;

decrypting the encrypted data using the recovered cryptographic key to generate decrypted data; and

transmitting the decrypted data from the receiver.

38. The method according to claim 37, wherein the receiver is included in a digital display, and the key

source is included in a set-top box, a DVD player or a computer.

39. A method of distributing cryptographic keys for encrypting digital data and decrypting encrypted data, the method comprising the steps of:

receiving a cable signal from cable headend into a set-top box, the set-top box;

selecting one or more channels of the cable signal;

extracting the digital data from the channels;

extracting encrypted first and second cryptographic keys from the channels;

transmitting the encrypted first and second cryptographic keys over a control bus;

decrypting the encrypted first cryptographic key to generate a first cryptographic key;

encrypting the digital data using the first cryptographic key to generate the encrypted data;

transmitting the encrypted data from the set-top box;

receiving the encrypted data into a receiver;

loading the encrypted second cryptographic key into the receiver from the control bus;

decrypting the encrypted second cryptographic key to generate a second cryptographic key;

decrypting the encrypted data using the second cryptographic key to recover the digital data; and

outputting the digital data from the receiver.

40. The method of distributing cryptographic keys of claim 39, the method further comprising the steps of:

receiving the encrypted data from the set-top box into a repeater;

loading the encrypted first and second cryptographic keys into the repeater from the control bus;

decrypting the encrypted first and second cryptographic keys in the repeater to generate the first and second cryptographic keys;

decrypting the encrypted data using the second cryptographic key in the repeater to recover the digital data;

encrypting the recovered digital data using the first cryptographic key in the repeater to regenerate the encrypted data;

transmitting the encrypted data from the repeater to the receiver.

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